

**Project Dissertation Report on**

**“CASHLESS ECONOMY AND DIGITALISATION**

**Shifting Patterns in Indian Payment Industry”**

Submitted by:

ADITYA

2K17/MBA/008

Under the Guidance of:

**Dr. GC Maheshwari**

**(Prof, DSM, DTU)**



**DELHI SCHOOL OF MANAGEMENT**

**DELHI TECHNOLOGICAL UNIVERSITY**

**Bawana Road, New Delhi 110042**

**Jan–May 2019**

## CERTIFICATE FROM THE INSTITUTE

This is to certify that the Project Report titled “Cashless Economy and Digitalization” is a bonafide work carried out by Mr. Aditya Bhardwaj of MBA 2017-19 and submitted to Delhi School of Management, Delhi Technological University, Bawana Road, Delhi – 110042 in partial fulfillment of the required for the award of the degree of Master of Business Administration.

Signature of Guide

Dr. GC Maheshwari

Signature of Head (DSM)

Dr. Rajan Yadav

Seal of Head

Place:

Date:

## DECLARATION

I Aditya Bhardwaj, Student of MBA 2017-19 of Delhi School of Management, Delhi Technological University, Bawana Road , Delhi-110042 declare that Major Project Report on **“Cashless Economy and Digitalization (India during 2014-19)”** Submitted in fulfillment of Degree of Masters of Business Administration is the original work conducted by me.

The Information and data given in the report is the authentic to the best of my knowledge.

This report is not being submitted to any other university for award of any other Degree, Diploma and Fellowship.

Aditya Bhardwaj

Place: Delhi

Date: 20<sup>th</sup>/ May/ 2019

## **ACKNOWLEDGEMENT**

It gives me immense pleasure to introduce my project report work entitled on “Cashless Economy and Digitalization (India During 2014-19)”.

I take this opportunity to express my gratitude to all those who helped me in completion of my project report successfully. I am grateful to my project guide (Dr. GC Maheshwari) in university, for giving me the opportunity and helping me for completion of my project report and giving their valuable time.

## **EXECUTIVE SUMMARY**

The purpose of this chapter is to describe the methodology used to achieve the research objectives of this study. This includes the type of the research, target population, the sampling techniques, the data collection and data analysis procedures.

The current study is based on primary data and the necessary data were collected from the websites, a convenient sampling was used in the study. A sample of 65 respondents was selected for the study and the study was conducted in the city of Delhi alone. Secondary sources were used to gather information on the “Cashless Economy and Digitalization”. Magazines, articles, research reports and government documents have been examined to obtain information on previous actions that stakeholders and legislators have already implemented. We have also researched websites of companies that produce research reports and online documents to carry out this research.

Self-administered questionnaires are distributed to 65 respondents in order to find out the adoption of digital payment system and perception and attitude towards Government initiatives during 2014-19 and the factors that positively contributed for the formation, change and maintenance of these attitudes.

Paper money and cheques have been the essential modes of payment and trade for the vast majority of the twentieth century in India. New Disruptive Technologies with new norms, service provision and consumption all having a digitalization as a basic feature have emerged. Many central banks and governments, in both developed and emerging economies, continue attempting to replace paper currency with plastic and endeavouring the usage of digital payment instruments. In order to encourage adoption of cards, the Indian government established frameworks for safety and security making the adoption of these new system easier. The path towards digitization started much earlier than Demonetization with internet penetration, telecom revolution leading to widespread availability of smartphones, 3G availability, and rise of e-commerce start-ups & e-wallet companies. All these led to people getting familiarized with digital platforms and online transactions. It's just that post demonetization the trend towards digitization and cashless transactions has significantly accelerated.

Thus, the current study is an endeavour to demonstrate the emergence of cashless economy and expansion of digitization, analyse India's cashless economy, policy development and

regulations in relation to cashless economy and digitization in the time period i.e. 2014-15 to 2018-19.

## **OBJECTIVE & SCOPE OF THE STUDY**

This study will examine people attitude and perception towards the central government and its schemes towards the end of their 5 year tenure.

This study will focus on demonstrating an overview of various policies and initiatives of Indian central government during 2014-19 period for promoting the cashless economy and digitization. It is also aimed to capture a screenshot of how the world is moving towards the digitisation and Digital payment systems.

- To analyze and demonstrate growth of cash lite economy and Digitization in India during 2014-19.
- To analyse the overall impact on corruption due to the various regulations and policies of the central government during this time period.
- To analyse the penetration of various digital payment initiatives at grass root level.

The studies will be restricted to check the adoption of digital payment modes and awareness and understanding of the digital India and various other programs during a time particular time period. People response is a suspicious and intangible concept, and a possible transformation of a satisfied state can change from person to person and various schemes and reform initiatives.

## **METHODOLOGY ADOPTED**

The research design will be used in this study is both ‘Descriptive’ and ‘exploratory’.

The data will be collected using both by primary data collection methods as well as secondary sources.

Primary Data: Most of the information will be gathered through primary sources. The methods that will be used to collect primary data are:

1. Questionnaire

Secondary Data: The secondary data will be collected through:

- Text Books
- Journals
- Websites

- Research Reports

### **METHOD OF SAMPLING**

The technique used for conducting the study will convenience sampling technique as sample of respondents will be chosen according to convenience.

### **LIMITATIONS OF THE STUDY**

1. Sample bias - Sample size is limited to 50-100 only.
2. Respondent bias – One of the serious limitation of research study that individuals Differ so personal bias cannot be avoided.
3. It is limited to one government and its initiatives. Time was a big constraint, so time could not be devoted to individual respondents. Data obtained in some cases may be biased.

### **SOFTWARE TOOLS**

1. MS-Word
2. MS-Excel
3. Google Form
4. SPSS

## CONTENTS

S.NO.	TOPIC	PAGE NO.
1.	Executive summary	V
2.	Chapter 1: Introduction	1-7
	1.1 Digital Payment Industry	
3.	Chapter 2 : Aim and Objective of the Study	8
	2.1 Objective of The study	8
4.	Chapter 3: Literature Review	09-13
5.	Chapter 4: Data presentation and analysis	14-34
	4.1 Demonetisation	14-20
	4.2 GST	21-22
	4.3 Digital India	23-25
	4.4 Other Schemes	26-27
	4.5 Data Analysis	28-36
6.	Chapter 5: Problems and Risks	37-38
7.	Conclusion	39-41
8.	References	42-44



## **CHAPTER-1**

### **INTRODUCTION**

Paper money and cheques have been the essential modes of payment and trade for vast majority of the twentieth century in India. The previous decade, however, have witnessed a quick dissemination of digitization in consumer payment instruments, through improved plastic (Debit/Credit) card networks, e-wallets, mobile payments and the digital currencies. Both policy makers and academics have appreciated the idea of payment digitization. The creation of a cashless economy is a great achievement in reducing currency printing and circulation costs, enhancing transmission of fiscal policy measures and financial inclusion and curbing black money, tax evasion and the unorganized sector. Many central banks and governments, in both developed and emerging economies, continue attempting to replace paper currency with plastic and endeavouring the usage of digital payment instruments.

In India, tax to GDP ratio, at around 18 percent, is amongst the lowest in the world, probably because India, as mentioned in the Union Budget of 2017-18, is a tax non-compliant country. Tax evasion and corruption are deterrent to economic growth. Given that India is an emerging country, there are extensive infrastructure requirements which need high development expenditure.

On November 8th 2016, the Government of India, in an unanticipated and a radical move, demonetized two of the highest value banknotes in circulation: INR500 and INR 1,000. These banknotes accounted for almost 86 percent of notes in circulation in value terms. For a heavily cash-based economy like India, this sudden stripping of legal tender status of existing notes and the prolonged unavailability of new notes led to economy-wide disruption. This unprecedented move caused a big debate among policymakers, politicians and academicians about the motivation behind and consequences of such actions. The ever-shifting objectives included flushing out black money, and combating tax evasion, counterfeiting and terrorism.

Subsequently, over 99% of the currency was returned to the central banks and so none of these motives turned out to be relevant. However, demonetization, which is an exogenous policy shock to the availability of cash, can have a more prominent impact in a different sphere – payment digitization. Specifically, the sudden cash squeeze may initiate a revolution towards a cashless economy via the rapid adoption of digital payment options and became a game-changer for the financial industry.

Adoption of digital payments can also bring about economy-wide changes that may have expansive and extensive ramifications. Digitization can propel the financial inclusion agenda, which is a priority for policymakers, regulators and development agencies globally. Digitization helps reduce the costs and physical barriers that have resisted valuable financial inclusion efforts by providing opportunities of rapid expansion through more advanced and accessible devices like mobile phones and retail points of sales. We therefore, study the impact of demonetization on digitization to determine possible positive externalities of the scheme. Ever since the payment industry started to experience digitization with the introduction of plastic cards in 1950s, banks have been the prevailing player in the circle.

Now, the growth and acceptability of Fin-Tech in recent years, particularly digital wallets, at a rapid rate has disrupted the conventional business model by creating new and effective system of payment. Retailers are the beneficiaries of these payments and impact the acceptability and expansion of digital payment modes. The acceptance of newer payment modes by retailers is imparting credibility to and increasing the ease of use of digital payment. Compared to credit cards, debit cards serve as a more suitable substitute for paper currency for two reasons. First, debit cards are more bounteous in the economy (615 million debit cards versus 23 million credit cards were in circulation in India as of October 2017) and are getting immense popular in the Indian context with launch of RuPay card to be taken as an example.

Second, unlike credit cards, debit cards have no temporary relationship between consumption and payment. It is documented in various papers that there is a significant increase in debit card usage after demonetization and the increase is much stronger for non-regular card users with relatively lower level of usage ex ante. Transaction volume increases by almost 400 percent and transaction value by almost 150 percent for non-regular card users, while the same numbers for regular users are 28 percent and 43 percent respectively. The user can transfer cash into the digital wallet using net banking, debit and credit cards and even physical cash through designated bank branches and then use the e-wallet for payment by various means either by scanning the retailers Quick Response (QR) code or automatically through e-wallet. In some cases, payments can also be made on offline mode, i.e., without requiring an active internet connection. Such easy and acceptable payment system should increase the adoption of e-wallets,

- a) By less sophisticated customers and retailers,
- b) By retailers/companies in the unorganized sector.

Information from sites and reports discharged by both government and privately owned businesses uncovers that the utilization of e-wallets encountered a surge because of

demonetization in both volumes as well as value. As for both transaction volume and value, the transaction type investigation uncovers a noteworthy spike in added cash and P2P payments amid demonetization and a lot more elevated amounts post demonetization. Indeed, even now, because of different cashback offers, P2P payments are occurring at a fast rate. While it is discovered that a 82 per cent ascend in the measure of cash added to the e-wallet, P2P payments demonstrate an expansion of in excess of 745 per cent for transfer to individual users and 405 per cent for payments to retailers.

While a low ex-ante value pre-demonetization results in a bigger rate increment, the outcomes show e-wallets were a popular payment method without cash. Debit cards showed the development of 64 per cent (on a bigger base of 374mn) between October 2013 and October 2015, while credit cards developed at just 23 per cent (on a little base of 19mn) amid a similar period. While the information from providers of payment related innovations permits examining just non-money payments, the business information from a retailer causes us to watch both money and non-money transactions. COD is the most prominent payment mode in India.

Nonetheless, isolating the business information into money and non-Cashman noteworthy move towards non-money transactions in the repercussions of demonetization – in light of both esteem (increment of 93 percent) and amount (increment of 84 percent) of offers was established.

Among the online payment modes, card use was much more predominant than e-wallets pre-demonetization and this pattern proceeds with post demonetization also. While it is observed expansion in e-wallet utilization, most of the money is consumed via card payments at physical stores: card payments increased by 136 per cent in number and 129 per cent in sum spent.

Similar numbers are 72 per cent and 80 per cent individually for e-wallet payments. The development in spend through cards is much lower for high-value clients at around 45 per cent in payments include and around 80 per cent in sum spent. For e-wallet spends, even high-value clients show a 70 times increase in a number of transactions while the sum spent increases by 17 times post-demonetization.

This suggests a lot bigger increase in card use among low-value customers because of demonetization and expansion in e-wallet users independent of transaction value. The effect of demonetization on digital transactions acceptance is most quieted in districts that are immature economically, lag in financial consideration and technological innovation framework development and have a population with conservative socioeconomics.

This suggests a lot bigger increase in card use among low-value customers because of demonetization and expansion in e-wallet users independent of transaction value. The effect of

demonetization on digital transactions acceptance is most quieted in districts that are immature economically, lag in financial consideration and technological innovation framework development and have a population with conservative socioeconomics.

While the value of electronic transactions expanded, India keeps on being a money-based economy; with cash available for use representing practically 18% of its GDP, one of the most astounding among rising economies. A similar number of developed economies like the UK and USA is about 3.5% to 8%. As of 2017, India's favoured digital payment mode was still COD (Cash on Delivery) with 57 per cent of all online shopping falling in this class. Other payment modes are described as follows: credit cards represented 15 per cent, Debit cards 11 per cent, net banking 9 per cent and e-wallets 8 per cent. The stunned advancement of payment digitization in India can be credited to various challenges. At the top edge has been a low dimension of web infiltration. India, as of January 2017, had around 462 million dynamic web users, around 60 per cent of which is in urban India. Of this, 443 million were dynamic web users.

This accounts for more than 30 percent of the country's population using the internet and about 24 percent using it via mobile phones. This is a significant increase from just 7.5 percent of the population using the internet in the year 2010 and only 0.5 percent using it in 2011. While this number still remains much lower than other developed countries with India not featuring even in the top 100 countries by internet penetration, the double-digit growth rate of internet users in India is the highest across the world.

This foreshadows well for India's digitization dreams, all the more especially concerning its digital payment desires. Likewise, a substantial part of India's population keeps on being financially illiterate, without access to formal financial channels like banking, and in favour of exchange modes like cash. This is evident as a high level of COD (Cash on Delivery) requests keep on plaguing the web-based e-commerce industry. Cost inefficiencies, information safety concerns, cost rivalry and customer socioeconomics like a provincial-urban partition and age increase the difficulties.

These difficulties end up obvious with declining digital transactions, expanding zero-balance user accounts and union in the business as cash made a comeback post demonetization. The Indian government has reliably attempted to push forward its digitization goals through policies and guidelines. For instance, so as to empower adoption of cards, the government set up systems for safety and security, rationalised the Merchant Discount Rates and has been issuing RuPay cards under the Prime Minister Jan Dhan Yojana scheme. The endeavours likewise extend to other payment digitization modes, beyond cards.

The digitization pattern in India started with e-commerce business start-ups boosting the Indian customers to have online impressions. From that point forward, rising individual consumption, increasing reach of cell phones, pervasive and increasingly reasonable access to internet and dynamic administrative changes have driven the growth in digitization. The Indian Government's Digital India vision and the entry of big corporates like Reliance in the telecom division have supported this development. This advancement manifests in the increasing rivalry in the e-wallets industry with banks, telecom and e-commerce organizations likewise riding the temporary fad. The Digital India program is a flagship program of the Government of India with a dream to change India into a digital society and learning economy. "Faceless, Paperless, Cashless" is one of the claimed roles of Digital India. As a major aspect of advancing cashless economy and changing over India into less-money society, different methods of digital payments are available. These modes are:

Banking Cards, USSD, AEPS, UPI, Mobile wallets, Banks Prepaid Cards, Point of Sale, Internet Banking, Mobile Banking, Micro ATMs

### **Digitalised and Cashless Economies in the World**

In country of Denmark, seeing customers pull cash from their wallets is increasingly uncommon. In fact, the country's central bank stopped printing banknotes and shut down its sole remaining mint last year. We are well on our way to becoming a cashless economy, embracing mobile and digital payments at an unprecedented rate. Denmark is not alone -- economies ranging from Western and Nordic regions to developing areas like India and Asia-Pacific are seeing a fundamental shift to a mobile economy.

Let's look at the numbers. As of 2014, most Americans carried less than \$50 in cash in their wallets and half carry less than \$20. In 2016, Mastercard found that, in the UK, the average person carried less than £5. By 2020, more than two-thirds of proximity mobile payments will be for items costing between \$20 and \$100, meaning consumers are becoming more comfortable making significant purchases with their mobile device -- not just the occasional \$5 coffee.

Consider these statistics:

- In Denmark's neighboring Sweden, more than 95% of transactions are digital.

- Last year, India pulled 86% of existing currency from circulation in order to demonetize the country's shadow economy and expand mobile banking.
- Vietnam announced a bold initiative to become a 90% cashless retail economy by 2020.

The cashless economy is politically complicated, particularly in developing economies. But from the perspective of business and technology, it's clearly more efficient and productive.

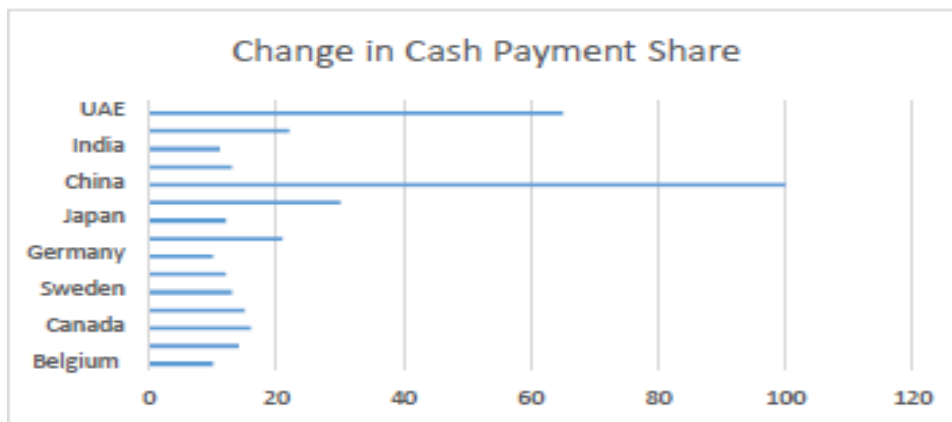


Figure 1 Source: newsroom.Mastercard.com

### Global Journey from Cash to Cashless

Today, around 85% of all retail payment transactions are done with cash, which equates to 60% of retail transaction value. Even though much of the world's population has access to many different options for making payments other than cash, cash still persists. Cash takes time to get at, is riskier to carry, and by most estimates, cash costs society as much as 1.5% of GDP.

Electronic payments, on the other hand, have been proven to boost economic growth, while advancing financial inclusion. It is for these reasons that countries around the world are working to make their payment systems less dependent on cash.

The Trajectory indicator score (fig 1.1) reflects the estimated change in share for cashless payment products between 2006 and 2011.

Non-Cash transactions are projected to grow at CAGR 12.7% globally with emerging markets growing at 21.6% from 2016-21. Emerging Asia alone has 25.2% share in these non-cash transactions. Government of Australia with new payment platforms (NPP), has created the necessary supply-side push for Australia's payment Industry by collaborating with the financial Industry.

Although both regulations converge various pillars like enhanced data protection, data compliance, data quality etc., there may be differences during implementation. Some of the major differences between the two are:

PSD2	GDPR
Banks are required to open Customer Account and transaction data to third party providers(TPPS)	Requires Banks to protect customer data and impose penalties for failure.
Encourages Open Banking Environment	Making open banking a little unattractive

Figure 2Source: [www.worldpaymentsreport.com](http://www.worldpaymentsreport.com)

Some other important regulations around the world are:

1. China's Sanctions on Mobile payment apps
2. Cambodia's new PSP licensing rules
3. RBI's Ban on LOCs and LOUs
4. Distributed Ledger Regulations
5. Singapore's ePayment User Protection Guidelines
6. Thailand's Payment System Act
7. UAEs ePayment Regulations etc.

## **THE AIM AND OBJECTIVE OF THE STUDY**

This study will examine people attitude and perception towards the central government and its schemes towards the end of their 5 year tenure.

This study will focus on demonstrating an overview of various policies and initiatives of Indian central government during 2014-19 period for promoting the cashless economy and digitization. It is also aimed to capture a screenshot of how the world is moving towards the digitisation and Digital payment systems.

- To analyze and demonstrate growth of cash lite economy and Digitization in India during 2014-19.
- To analyse the overall impact on corruption due to the various regulations and policies of the central government during this time period.
- To analyse the penetration of various digital payment initiatives at grass root level.

The studies will be restricted to check the adoption of digital payment modes and awareness and understanding of the digital India and various other programs during a time particular time period. People response is a suspicious and intangible concept, and a possible transformation of a satisfied state can change from person to person and various schemes and reform initiatives.



## CHAPTER 3

### LITERATURE REVIEW

This chapter provides the relevant literature and theoretical framework for the present study

- **Piyush Thukral**, Assistant Professor, University of Delhi in his paper on “Cash Lite India: Boon or Bane?” focused on challenges and rewards of recent initiatives taken by the ruling government. As cash is primary medium of all the transactions in India, he mentioned several key factors that have impacted the current economic conditions in the country. The total number of cashless transactions increased exponentially after demonetization, but, with cash entering into the economy with time has decreased the numbers. He put light on noteworthy reception of PoS (Point-of-sale) terminal with considerable working expense ranging from Rs 3000-4000. A progressive move towards Cashless economy is recommended by him due to lack of financial literacy, unwillingness to adopt new modes of payment with steady endeavours to improve micro and macro policies implementation and acceptance.
- **Rajwinder Kaur** have thrown light on modes of digital economy and various initiatives taken by the government to create cashless environment. Digital India Programme launched in 2015, UPI based payment system are some of the initiatives taken by the government. She highlighted some facts about NEFT or RTGS, AEPS (Aadhar Enabled payment system), USSD (Unstructured Supplementary Service Data), M-wallet, Mobile banking, CTS (Cheque Truncation System) for the year 2015-16 and 2016-17. She also has studied the view of people regarding cashless economy and focused on progressive move towards digitalisation in a cash based economy.
- **Bharat Khurana** also mentioned about the initiatives taken by the government mainly Digital India and how it could affect people and what challenges could government face while implementing the programme. He used secondary data sources to put light on Digital Locker system, Kisan Rupay Card, POS devices distribution, e-railway tickets, android apps, wifi hotspots, broadband highways etc.
- Emphasizing on banking importance in a country like India and financial inclusion of Bottom of the pyramid, **Prof Khan N, Ansari S.** explains how banking sector is experiencing an IT revolution. Their study found that there is continuous increase in internet users as a proportion of total increasing population during their study period due to which statistics have increased number of e-banking delivery channels such as ATMs,

POS, Cards, NEFT, RTGS etc. Also, post demonetisation according to them, UPI and USSD were only two payments system that witnessed growth in usage between Nov 2016 and April 2017. They stressed upon security and privacy risk as well as trust and the marketing policies that need to be implemented effectively.

- New Disruptive Technologies with new norms, service provision and consumption all having a digitalisation as a basic feature have emerged. It includes AirBnB, Uber, Oyo in India which are facilitating P2P transactions. Others include activities like crowd sourcing, free media services etc. GDP accounting should consider these digitisation challenges which do not incorporate concepts like international transactions and knowledge based assets so far. (Ahmad, N. and P. Schreyer (2016))
- **M.Nithin, P.Jijin, P.Baiju** analysed the effect of demonetisation on digital payments viz. debit card, point of sale transactions, and mobile transactions using an intervention analysis of time series. They founded that there was no impact of demonetisation on digitalisation of the Indian economy.
- The reality is that India is moving into the future at an unprecedented rate. And the path it is taking to get there is digital. In the first month after the introduction of the GST, over 1 million businesses registered with the system. In only the first few weeks after implementation, the increased transparency and digital data availability that are integral to the GST began to open up new sources of lending to small and medium-size enterprises (SMEs). The benefits of digital transformation in the provision of government services do not occur overnight. In fact they are always greatest over the long-term, while the costs are concentrated in the near-term. That is exactly why technology-led disruption is generally resisted by *status quo* interests: at least some of them lose out as a consequence of change.( **Gupta Arvind, Auerswald Philip**)
- **Dorothy Sarayarani** has analysed impact of India going cashless on citizens. Emails and surveys with sample size of 150 people were used and it was founded that it is difficult for 90% of workforce, which produce half of the output in the country, working in rural sector to become cashless. However, according to the research, 2/3<sup>rd</sup> of the respondents feel that India will become a successful digital economy.
- The importance of cashless society and plastic cards in European market and its contribution in development of the cashless society have been demonstrated. (**Steve worthington**) However the usage of plastic cards in current era has also been declining with emergence of digital wallets and other payment systems.

- **VS Dinh, HV Nguyen**, have identified the factors that may drive the adoption of mobile payments system in Vietnam which includes perceived usefulness, convenience, promotional offers and social approval.
- A comparative study has been conducted by **Steve W (1995)** which demonstrated the pros and cons of cashless society (plastic cards as a means of payment) for different parties within UK.
- **Bouwman H** and co-authors explored the effect of digital technologies on the business models of SMEs and contribution that digitalisation can give in innovativeness and performance, specifically when social media and big data are implied.
- Kapila (2017) investigated impact of demonetisation in terms of rationale, the aftermath, the short and the long term economic impact, and the social and political fallout.
- Dhingra (2017) argued that demonetisation is a powerful instrument of state policy that works like a divine 'Brahmastra' and has to be used with utmost care and caution.
- Reddy (2017) attempts to understand the larger picture of the situation and its way ahead through three major strands; explanations and analysis of demonetisation, discussion on the possible alternative that could have been implemented, and examination of new objective of digitalization.
- Singh (2017) highlighted the seriousness of black economy situation in India.

### **Mobile (Payments) And The Rapidly Growing Travel Sector**

Global digital travel was a roughly \$565 billion market last year, according toMarketer, with sales expected to top \$817 billion by 2020. And the cashless economy represents the travel sector's best chance to develop a mobile-first strategy and integrate mobile payments with mobile booking, loyalty programs, ancillary merchandising and blockchain technology. The big airlines, for instance, can derive about half or more of their ancillary revenue from frequent flyer programs, but there is huge growth potential for more diverse revenue streams (i.e., retail). As onboard connectivity grows, airlines will be able to sell more before, during and after the flight, which is whyAirbus expects to triple its ancillary revenue to hit \$130 billion by 2020.

Companies in the travel sector will capture a much bigger piece of that market if they invest now in mobile solutions. Uber transformed the archaic taxi business model virtually overnight. What could similar mobile-first solutions do for airlines, hotels and ground transportation?

Many commuter rail stations, for instance, are in suburbs that were not designed for gated ticketing and the capital costs are too high to install and maintain smartcard systems as seen in urban centers. Mobile ticketing and mobile payments are a quick, cost-effective solution to this challenge that keeps service levels efficient and creates seamless mobile experiences for local commuters as well as tourists. The vast majority of rail tickets sold in Denmark are digital, setting an example for ground transportation operators in Europe and around the world.

**The Uber Effect In A Cashless Economy** Uber, which has transformed the travel sector (and business models in general), is also a pioneer of the cashless economy. Eliminating the hassle of using cash to pay for a ride is a key innovation, but embedding a payment mechanism into a mobile-only experience to create truly seamless transactions is genius -- Uber customers don't think about payments, they just happen. Now, Uber can expand that mobile experience to food (UberEATS), entertainment, hotels, travel and anything else their customers want. Uber is still a transportation company, but their cashless, mobile business model expands the services it can offer around its core business. (This is the same idea behind ancillary revenues in airlines and hotels.)

Beyond revenues, the goal of mobile commerce is a seamless experience in which end-to-end service is instant and frictionless. This is impossible, however, if a customer can pay Uber on their smartphone but has to use paper money at the railway station or swipe a credit card at the airport kiosk.

Customer expectations are rising thanks to companies like Uber, and they expect mobile payments. Fortunately, these can be the gateway to a fuller mobile business model -- once payments are taken care of, new opportunities for ancillary retail, mobile booking and geo targeting can arise.

### **Leapfrogging Major Capital Investment, Going Straight To Mobile**

Fortunately, mobile solutions are nothing like the costly, burdensome legacy systems that have weighed down the travel sector for decades. There are basic mobile solutions that can be

implemented quickly to support the multiple payment methods consumers want while allowing businesses to scale up as needs grow. This is important. Consumers want to use payment methods that are intuitive, familiar and already baked into their devices, like Apple Pay, Android Pay, Masterpass, Visa Checkout, Alipay and, increasingly, paying-by-link in their social channels.

Consumers want to be able to pay for a coffee or a rail ticket or tip a concierge via their mobile devices. The cashless and mobile economy is incremental, but the tracks must be laid now. It's not just about new forms of payment but also about transforming the consumer's experience, with the goal of making it more end-to-end, seamless, relevant and personalized for the individual -- and more profitable for the enterprise. Enabling mobile payments is the first step to a truly cashless and mobile economy that goes beyond transactions and opens up new business opportunities in the travel sector and elsewhere. This is a critical moment in business and technology, and we should be looking to countries like Denmark, India and Vietnam to understand the opportunity and not fall behind.

## CHAPTER 4

### DATA PRESENTATION AND ANALYSIS

#### 4.1 Demonetisation

Demonetization, since it was declared in November 2016 has been subject of extraordinary media banter. Decently in this way, since it has been very numerous years since such a problematic approach test has been led by the Govt. of India. Also, demonetization has no parallels anyplace else in the world. At the centre of this extraordinary discussion is whether demonetization is a triumph or a disappointment. Before we dive into that angle, how about we see what could have prompted this choice. One of the essential reasons demonetization was reported is the gigantic number of businesses operating at black money helped by the number of high-value notes (Rs 500 and Rs 1000) available for use in the Indian economy. As indicated by RBI, at the time of demonetization, 15 trillion rupees included these high-value notes were circling in the Indian economy and an expected 33% of this 15 trillion rupees was flowing outside the formal bank economy profiting. Such tremendous measure of black cash is an immediate aftereffect of tax avoidance, specifically affecting the Government's income. Secondly, it is in charge of quick ascent in assests costs be it land, gold, or different items as saw in India in the course of the most recent decade or somewhere in the vicinity.

#### **Need for Demonetisation:**

The total currency in circulation as on March 31, 2016 was Rs.16,415 billion of which notes of Rs.1,000 denomination account for 38.6 per cent (Rs. 6,326 billion) and Rs.500 account for 47.8 per cent (Rs. 7,854 billion). The importance of Rs.500 had been increasing over the years, from 4.1 per cent on March 31, 1990 to 47.8 per cent on March 31, 2016. Similarly, the share of Rs.1,000 note had increased from 1.7 per cent in 2001 to 38.6 per cent in 2016. The total amount of Rs.500 and Rs.1,000 notes amounted to Rs.14,180 billion as compared with India's GDP of Rs.1,35,761 billion in 2015-16 or about 11.5 per cent of GDP, increasing nearly threefold from 2.8 percent in 2001.

The history of Rs.1,000 note is interesting. It was first introduced in 1938 and then demonetised in January 1946. It was re-introduced in 1954 and again demonetised in 1978 only to be re-introduced in 2000. The Rs.500 note was introduced in October 1987-88.

#### *Demonetisation of 1946*

In 1946, the currency notes of Rs.1,000 and Rs.10,000 were demonetised. The higher denomination notes were not accessible to common people at that time. So, the currency ban did not have much impact on the common people and the Indian economy. Furthermore, it severely impacted functioning of State Bank of India as there were only 71 bank offices at that time. The bank's profits also took a hit and they were low as compared to that of previous years. The stock market rallied for two continuous years post the demonetisation reflecting impact on economic activity.

#### *Demonetisation of 1978*

In 1978, Government demonetised Rs.1000, Rs.5000 and Rs. 10,000 notes. Similar to the recent episode, this action was kept confidential and yet an ordinance was issued to carry out the exercise. However, that ordinance contained sufficient measures for the exchange of the old notes and clearly stated the power of central government in framing of the rules. There was a political angle involved in 1978 demonetisation as the then newly formed Janata government wanted to target some of the alleged corrupt elements in the government. The impact of currency ban on common people was limited as the demonetised notes formed only a small portion of the total money supply.

#### *Demonetisation of 2016*

The exercise of demonetisation was carefully crafted as observed by the Prime Minister in his televised talk on November 8, 2016 where he mentioned about completion of festive season and need for strong measures to defend India from menace of counterfeit notes and corruption. The government, given the constitutional provision of right to life, permitted use of old notes in government hospital for medical treatment and buying medicine with doctor's prescription, and making payments for milk and utility bills. To ensure convenience and freedom of travel within the country, purchase of tickets for railway, bus and air travel were permitted with old notes, and toll on highways was exempted. Similarly, grace period was offered on purchase of petrol, diesel, and gas and LPG gas cylinders for cooking. To ensure comfortable international travel, use/exchange of old notes at international airports was also permitted. In view of sowing season, old notes were permitted to be used for purchase of seeds. For general convenience payment of school fees as well as provisions for marriage functions were also made. The Post Offices which have a significantly larger presence in rural areas than commercial banks were also permitted to exchange old notes. To address the emerging issues, given that 86 percent of the currency was demonetised, 126 amendments were introduced in the course of 51 days.

## **A Success or Failure**

The best approach to quantify the accomplishment of an activity or an occasion is by estimating the predefined targets that the Government was more likely to set before executing that activity or occasion. In this case of demonetization, the to a great extent broadcasted objectives by the Govt. were

- Elimination of black money from the system
- Curbing the fake notes circulation
- Attacking terror financing

On the last two points of fake notes and terrorism financing, we don't have adequate information yet to achieve an end. On the Black cash front, latest information referred to by RBI that an astounding 99 per cent of the complete demonetized cash available for use has come back to the RBI/banks could be viewed as contention to articulate that demonetization has failed. The other argument that has been referred to express that demonetization is a disappointment and it has caused a drop in GDP growth rates and has destroyed the economy, particularly the informal economy which makes up a majority level of Indian economy. The measure of demonetized money that has returned or rather the total return of demonetized money as a parameter isn't the correct method to pass judgment on this current experiment's Success or failure. Because one has kept his demonetized cash once again into the bank doesn't change over that cash into white neither does it imply that you have gotten away tax examination. Given that deposits above Rs 2 lakh (counting suspicious small scale deposits in zero balance accounts) adding up to Rs 2.89 lakh crores are being investigated by the income tax office, it is smarter to keep an open outlook and anticipate the ultimate result before passing judgment. Obviously, in the days to come if it turns out to be evident that the administration has failed in distinguishing the black cash from the deposits made and flopped in taxing those account deposits and individuals behind, at that point, it could be safe to state that demonetization is a disappointment in accomplishing its primary goal.

## **Digitization—The biggest beneficiary**

Demonetization, whatever its first aim, has brought about one positive consequence—Digitization of Indian economy. Given that cash, the essential and central source of cash-based



transactions was restricted overnight, individuals began taking a gander at substitute approaches to make payments and complete contracts and agreements. That has prompted reception of online payment techniques and flood in digital payment systems the nation over. One could see the volume of transactions through the use of debit cards, credit cards, e-wallets and POS terminals rise strongly. Plus, the volume of transactions through online banking and NEFT saw quick growth. To be reasonable it is not necessarily the case that digitization itself has begun post demonetization. The way towards digitization began a lot before with internet penetration, telecom giants prompting across the board accessibility of cell phones, 3G accessibility, and the rise of e-commerce companies like flipkart, snapdeal and e-wallet organizations like Paytm. All these prompted individuals getting acquainted with online payment systems and online transactions. It's simply that post demonetization the pattern towards digitization and cashless transactions has altogether quickened. For example—the launch of BHIM (Bharat Interface for Money), an android application by Govt. of India. In contrast to a wallet, this application enables one to make direct bank to bank transactions without stacking any cash from an outside source and also unlike credit/charge cards, this application doesn't require any POS terminal/swiping machine to exchange cash. At present, this is nearing 20 million downloads and infiltration level is about 36% in rural regions and a lot higher in urban zones.

Another case of a mobile-based online transactions system launched by Govt. of India is Bharat QR, which is a QR code based alternate payment answer for trader in local areas rather than traditionally utilized credit or debit cards. The favorable position being the end of POS (point of sale) machines prompting lesser capital costs, no robbery of card information, and interoperability with every one of the banks in the nation.

### **Formalization of Indian Economy—The other beneficiary**

One of the positive results of demonetization has been the formalization of the economy. India's economy, basically the labor market is to a great extent informal i.e about 80%. For India, to clock a high GDP growth rate it needs to make protected and well-paying employment for a growing number of individuals who are as of now under the umbrella of an informal economy. In spite of the fact that the quantifiable growth is by all accounts truly little now, in the long haul, one could observe the beneficial outcomes of demonetization in changing India into more a formal economy. Think about this for instance. A little firm which was paying wages to its

workers in cash was compelled to make payments their individual bank accounts, post demonetization, at least for a couple of months till cash made a rebound.

That would have brought a large number of individuals into the formal banking framework temporarily and would have made a way for creating a bank account for them and getting credit in bank accounts already there. Aadhar and the opening of bank accounts under Prime Minister Jan Dhan Yojana (PMJDY) program gave the fundamental framework to make such a financial inclusion for masses. In spite of various issues, the execution of the GST is a key complementary change that will support formalization, as firms have a solid motivation to register with GST to acquire input charge credits and to pick up from compliance rating of their sellers. However, significantly more should be done if Govt. is extremely genuine about making individuals adhere to the formal economy.

### **Impact on Agriculture**

India's 236 million farmer's deals mostly in cash and millions of them were unable to get enough cash to buy seeds and fertilizers for their winter crops. Indeed, Even the National Seeds Corporation (NSC) failed to about 1.38 lakh quintals of wheat seeds. Even after the central government allowed the old currency notes for wheat seeds sale to improve the overall condition, the cumulative sale stayed low. Amid that time, Indian farmers were either selling kharif crops or sowing Rabi crops. Demonetisation expelled cash from the market which is major component of trade in both of these crop cultivation especially in India. Dispensing of daily wages to farmers and workers also became difficult for the bigger landowners. (**Civildaily**, Nov 2018)

The government's choice to ban Rs. 500 and Rs. 1,000 notes on November 8, 2016, to attack black money and terrorism financing through fake notes has evoked mixed responses.

Demonetization has affected the day to day lives of millions, particularly those in the informal sector—workers, small scale vendors, and farmers—but its impact in the long term yet to be seen.

For the time being, demonetization has prompted the fast adoption of e-wallets, and credit and debit cards as payment mediums. Such digital payments have replaced cash based transactions at least in urban areas up to certain extent. Many market analysts, economists and socio-political researchers believe that the country's path to digitization was transformed and the opportunity to achieve a cashless society has been generated.

**E-commerce and a cashless economy** The path toward digitization in India started with the e-commerce start-ups, such as FlipKart, Jabong, Snapdeal etc. Initially, most of these e-retailers conducted the major proportion of their business through cash, but what they move towards cashless progressively and is continuing to do to familiarize people with the convenience of online channels and cash less transactions.

While there is no evidence of e-retailers benefiting after about 86 percent of the currency in circulation by value in India was withdrawn, business at large fin-tech companies, popularly called e-wallet firms, have grown. According to media reports, including in the Economic Times, transactions in e-wallet companies had increased by more than 700% in the first few days after demonetization.

Slowly, digital transaction are becoming popular. Not just in India, but in other countries as well; although, the rate of adoption varies. In countries, such as the US and Netherlands, a large proportion of the transactions are through digital modes of payment, while in others, such as Italy, cash retains its paramount position. In India, many people in rural areas and the informal sector do not have bank accounts. About 40% lack access, according to different reports, despite the government's efforts to improve financial inclusion. Even those who have bank accounts may not have easy access to a physical branch or may hesitate before using a bank account because of a lack of familiarity and apprehension about usage. Fear of legal proceedings can also be the reason in some cases. However, the internet and the sharing economy cannot be forced in our country or overseas. As internet penetration and connectivity increase, the digitization of the economy is a natural progression.

According to a Google and The Boston Consulting Group report, Digital Payments 2020, the total payments made through digital payment instruments in India are likely to be about US\$500 billion by 2020, which is 10 times the current level. The report also estimates that non-cash transactions, which currently constitute about 22% of all consumer payments, will overtake cash transactions by 2023.

Also, as the number of 3G and 4G internet connections rises and the price of mobile devices decreases, the number of internet users have increased at a fast rate. A Deloitte and Associated Chambers of Commerce & Industry of India (ASSOCHAM) study forecasts that India will have 600 million internet users by 2020. Although, spectrum availability in metro cities in India is a

small proportion of what is available in cities in other developed markets, internet penetration is likely to increase in the future. In India, the current government (2014-19) is committed to a digital transformation of the economy and government. This push has led to the rise of a new category of fin-tech service providers, payment wallet companies, and more recently payment banks.

### **Digitization and the Indian insurance industry**

The insurance industry in India is also facing enormous competition because of digitally enabled transformation. With the use of smart, digital products and services increases, customers' demand for rapid, efficient, hassle-free, and intuitive products and services are escalating.

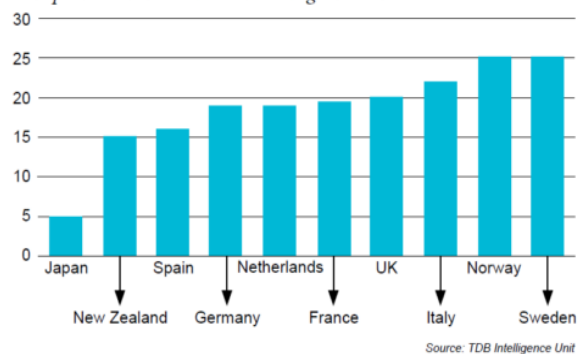
Effective Collaboration and networking between Insurance companies can help them sustain in this business. In other words, a system of multiple stakeholder's will power the next spurt of growth in the insurance industry, and the role of digital payments in facilitating the growth of such ecosystems is vital. Now, consumers has started comparing the policies of different players online and if they will not network and collaborate with each in coming years, competition might increase resulting in entry of new players in the industry.

## 4.2 GST

The Goods and Services Tax (GST), implemented on July 1, 2017, is regarded as a major taxation reform till date implemented in India since independence in 1947. GST was planned to be implemented in April 2010, but was postponed due to political issues and conflicting interest of stakeholders. The primary objective behind development of GST is to subsume all sorts of indirect taxes in India like Central Excise Tax, VAT/Sales Tax, Service tax, etc. and implement one taxation system in India. The GST based taxation system brings more transparency in taxation system and increases GDP rate from 1% to 2% and reduces tax theft and corruption in country. The paper highlighted the background of the taxation system, the GST concept along with significant working, comparison of Indian GST taxation system rates with other world economies, and also presented in-depth coverage regarding advantages to various sectors of the Indian economy after lavishing GST and outlined some challenges of GST implementation.

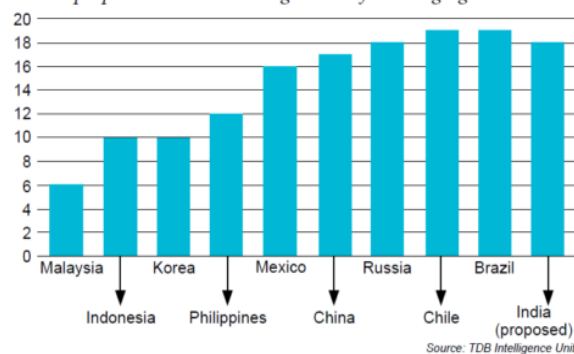
### *GST rates in high-income countries*

*European countries tend to have higher tax rates*



### *GST rates in emerging economies*

*India's proposed rate is at the higher-end for emerging economies*



The GST Council, a recommendatory body consisting of representatives of Central as well as state governments, has met on several occasions and taken important decisions relating to tax rate structure, exemptions, rules, composition scheme etc. Over the period, the Council has recommended a reduction in the tax rates of various goods and services. It is also considering the various issues faced by trade and industry and endeavoring to simplify the new tax regime and ease compliance.

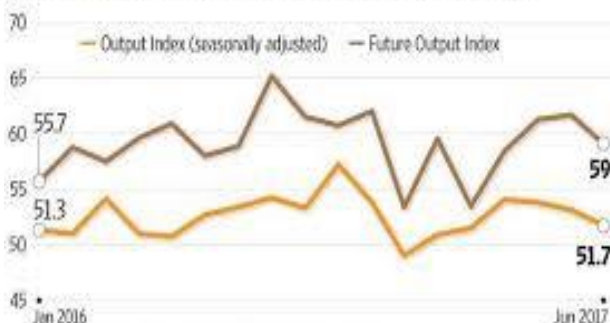
GST has been envisaged as a more efficient tax system, neutral in its application and attractive in distribution. The advantages of GST are

- Wider tax base, necessary for lowering the tax rates and eliminating classification disputes
- Elimination of multiplicity of taxes and their cascading effects

- Rationalization of tax structure and simplification of compliance procedures
- Harmonization of center and State tax administrations, which would reduce duplication and compliance costs
- Automation of compliance procedures to reduce errors and increase efficiency

### MOMENTUM FADES

Manufacturing sector feels the heat of GST implementation.



A reading above 50 indicates expansion from the previous month, while a number below 50 indicates contraction.

Source: IHS Markit, Nilde

Chart 1

### Centre's indirect tax collections have been hit as GST revenue has been underwhelming

Centre's total indirect tax revenue

(Year-on-year, in %)



FY19 refers to only first half of the year, i.e. April to September. Indirect tax collections include GST revenue applicable to centre and other indirect taxes outside GST ambit. For years before FY18 (when GST was first introduced), indirect taxes mainly consisted of customs, excise and service tax.

## MORE PEOPLE FILING TAX RETURNS

No. of income tax returns filed

FY17

5.43 cr

FY18

6.84 cr

### Tax slab rationalization

There are as many as six slabs, excluding exempt goods. Though most goods fall in the 12%, 18% and 28% brackets, there is a case for merging slabs to reduce complexity and classification disputes. The 12% and 18% bracket could be merged into one single slab in the 14-16% range.

### Anti-profiteering agency

The agency, which was constituted for a period of two years, has been functional for about few months and issued a few orders following investigations. The GST Council needs to decide whether to wind it up after two years or keep it going until the tax regime matures instead of changing rates frequently.

GST has received positive as well as negative responses as befits its characterization as a toddler. However, further steps will bring out the true sense of One Nation One Tax.

### **4.3 Digital India**

As India moves towards a digitalisation and cashless economy, the Government announced on 15th December, 2016 two schemes “Lucky Grahak Yojana” and “Digi-Dhan Vyapar Yojana” to distribute cash rewards to consumers and vendors who use digital payment platforms for individual transactions for their personal consumption. The reward prizes range was from Rs 1000 to Rs 1 crores and the transactions allowed were from Rs 50 to Rs 3000 to maintain the focus on the common man. The schemes will not only give a lift to online payments, but would specifically bring the lower class, lower middle class and small scale companies into the digital payment fold, and better approach forever.

The most unfortunate will be qualified for rewards by using USSD, (the Unstructured Supplementary Service Data) System which is available to mobile phones. People in rural areas can participate through Aadhaar Enabled Payment System (AEPS). The scheme will become operational with the first draw on 25th December, 2016 (as a Christmas gift to the nation) paving the way to a Mega Draw on Babasaheb Ambedkar Jayanti on 14th April 2017.

The Lucky Grahak Yojana for Consumers gives a daily reward of Rs 1000 to be given to 15,000 lucky users for a period of 100 days; and weekly prizes of Rs 1 lakh, Rs 10,000 and Rs. 5000 for users who use the alternate modes of digital Payments. This will include all forms of transactions viz. UPI (Unified Payment Interface), USSD, AEPS and RuPay Cards, but exclude transactions through Private Credit Cards and Digital Wallets. The Digi-Dhan Vyapar Yojana for Merchants gives Prizes for Merchants for all online payments conducted and weekly prizes of Rs. 50,000, Rs 5,000 and Rs. 2,500.

There will be a Mega Draw on 14th of April – Ambedkar Jayanti. This will give three Mega Prizes for consumers worth Rs 1 crore, Rs 50 lakh, Rs 25 lakh for online transactions between 8th November, 2016 and 13th April, 2017 to be announced on 14th April, 2017. For merchants too, there will be three Mega Prizes worth Rs 50 lakhs, Rs 25 lakh, Rs 12 lakh for online transactions from 8<sup>th</sup> November, 2016 to 13th April, 2017 to be declared on 14th April, 2017. The National Payment Corporation of India (NPCI), a not for profit company, which has the mandate to guide India towards a cashless society, is the actualising agency for the schemes. The

NPCI has been directed to check the technical and security audit of the schemes to ensure that the technical integrity of the process is kept up. The Government shall bring about an estimated expenditure of Rs 340 crores for the scheme (up to 14th April, 2017).

The Centre has approved a huge number of initiatives in February 2016 to encourage digital payments and a transition to cash-lit economy in a key manner. Prime Minister Narendra Modi had highlighted these measures in his Man Ki Baat address in May 2016. Urging people to adopt digital payments, he said “If we learn and adapt ourselves to use cashless transactions, then we will not require notes. Under-hand dealings will stop; the influence of black money will be reduced. So I appeal to my countrymen, that we should at least make a beginning. Once we start, we will move ahead with great ease. Twenty years ago who would have thought that so many mobiles would be in our hands. Slowly we cultivated a habit and now we can’t do without those. Maybe this cashless society assumes a similar form. But the sooner this happens, the better it will be.”

Towards this end, the Government had launched a major drive for financial inclusion by opening Jan Dhan accounts, giving a statutory basis for Aadhaar, implementation of Directs Benefits Transfer, introduction of RuPay Cards and Voluntary Disclosure Scheme for unaccounted cash with the country people. Following demonetization, there has been a spurt in the online payments across the country and both the volume and amount of money transacted through digital methods saw seen manifold increase since 9th November.

However, as on date, nearly 95 per cent of India’s personal consumption expenditure transactions are cash-based giving rise to a very large informal economy, limiting the ability of State to collect and raise taxes. The daily RuPay Cards transactions in the country have risen from 3.85 lakh on 8th November to 16 lakh on 7 December; the e-Wallets transactions have increased from 17 lakhs to 63 lakhs and PoS (Point of Sale) transactions from 50.2 lakh to 98.1 lakh.

Further, the Government announced on 8th December an attractive package to promote the use of cashless payments through various concessions like a rebate of 0.75 per cent of the sale price to consumers, if they pay online for petrol or diesel. To improve the digital payment infrastructure in rural areas, the Central Government through NABARD decided to extend



financial support to eligible banks for deployment of two PoS devices each in one Lakh villages with population of less than 10,000. These PoS machines are intended to be deployed at primary cooperative societies, milk societies and agricultural input dealers to encourage agriculture based transactions through online means and serve around 75 crore population.

No service tax will be charged on digital transaction charges for transactions upto Rs.2000 per transaction. Railway through its sub urban railway network shall provide incentive by way of discount up to 0.5% to customers for monthly or seasonal tickets from January 1, 2017, if payment is made through digital means. Government has waived service tax charged while making payments through credit card, debit card, charge card or any other payment card; constraining the waiver to payments up to Rs. 2,000 in a single transaction

On 6th December, the Government, as part of the plan to expand the digital payments eco-system and facilitate the move towards cashless transactions, decided that an additional one million new PoS terminals should be installed by 31st March 2017. The Ministry of Labour & Employment and States' Administration organized 2,73,919 camps to open 24.54 lakh bank accounts for unorganized workers.

Recommending a medium term strategy to promote the growth of digital payments, the Committee on Digital Payments constituted by the Ministry of Finance on 9th December submitted its Final Report to the Finance Minister and wanted the benefits to cover the financially and socially excluded groups.

Clarifying the Government policy before the Finance Ministry's Parliamentary Consultative Committee meet on 15th December, Finance Minister Arun Jaitley said that digital transactions were a parallel mechanism, not a substitute, for cash transactions and cashless economy was actually a cash lite economy, as no economy could be fully cashless. The Finance Minister said that the Government was trying to encourage digitization as much as possible because an excessive cash economy had its own social and economic costs and consequences. The Government incentives to people had evoked a positive response to shift to digital mode of payment. Cyber security measures, he said, were being taken by the banks under RBI supervision. **(Deepak Razdan, 2016)**

#### **4.4 Other Schemes**

- 1. The Lucky Grahak Yojana** for Consumers gives a daily reward of Rs 1000 to be given to 15,000 lucky users for a period of 100 days; and weekly prizes of Rs 1 lakh, Rs 10,000 and Rs. 5000 for users who use the alternate modes of digital Payments.
- 2. The Digi-Dhan Vyapar Yojana** for Merchants gives Prizes for Merchants for all online payments conducted and weekly prizes of Rs. 50,000, Rs 5,000 and Rs. 2,500.
- 3. Aadhar Pay**, a merchant version of AEPS will be launched. Rs 3 lakh cap on cash transactions subject to certain exceptions. Awareness programs like DigiShala-Educational TV Channel for Digital Payments on DD free Dish
- 4. Visaka** by MHRD, Indian Railways to install 10,000 POS machines to promote Digital Payments using cards. (Source: [www.cashlessindia.gov.in](http://www.cashlessindia.gov.in))
- 5. Ratan Watal Panel on Digital Payments** was set up to suggest ways to encourage India's movement towards cashless economy.
- 6. NITI Ayog Committee** was set up to formulate a strategy to expedite the process of transforming India. It was tasked to identify various bottlenecks that may impact access to Digital payments.
- 7. UPI:** A set of standard application programming interfaces (APIs) provide an interoperable system for seamless transfers, and it has been built on top of the immediate payment service (IMPS) platform.
- 8. Panel of Chief Ministers:** 13 member committee, including 6 CMs to come up with an action plan to rapidly expand the use of digital payment platforms across the country.
- 9. Pradhan Mantri Jan Arogya Yojana (PM-JAY) App** launched on Google play store. PM-JAY is a government scheme launched in 2018 under Ayushman Bharat Mission.
- 10. HRD Ministry launched Operation Digital Board** to provide better digital education in India.
- 11. Government e Marketplace (GeM)** launched “womaniya on GeM”, to enable female entrepreneurs and female SHGs to sell products.
- 12. SWAYATT:** is an initiative to promote start-ups, women and youth advantage through eTransactions on Government e Marketplace (GeM).
- 13. E-Aushadhi:** for online licensing of Ayurveda, Siddha, Unani and homeopathy drugs and related matters.

**14. DigiCop:** mobile app of Chennai Police Department. People can track status stolen 2-wheelers and cell phones.

**15. New e-Commerce policy 2019,** requires all online retailers to maintain level playing field and restricts marketplaces from influencing prices to curb deep discounting.

**16. Web-Wonder Women** campaign to celebrate achievements of Indian female social media influencers across the globe.

17. Arunachal Pradesh launched **web portal:** making land records available to people with unique identification numbers. “Bhudaar”, an 11 digit unique identification code assigned to each agriculture land holding and rural and urban properties in the state.

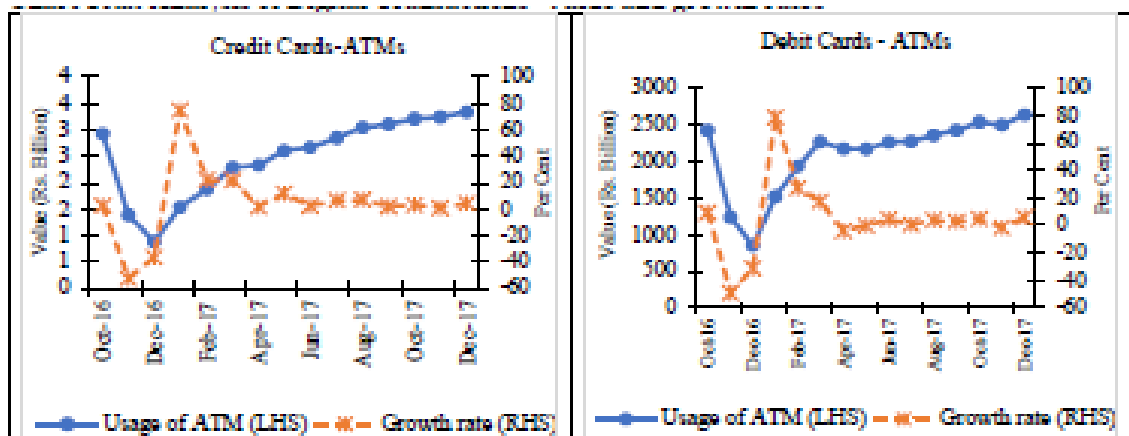
## Data Analysis

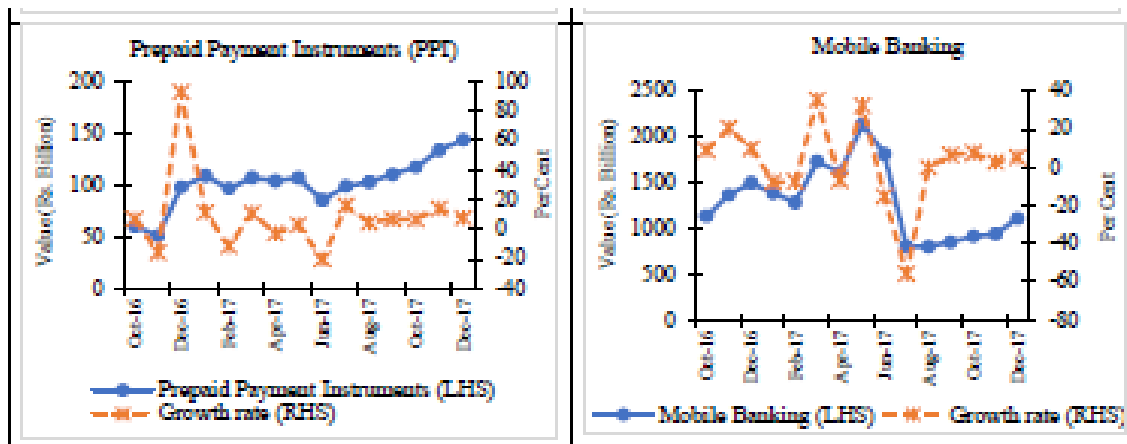
### Data Analysis:

There has been an increase in personal income tax collection (excluding the securities transactions tax) due to the measures undertaken to curb black money and encourage tax formalization. In fact, its increase from about 2 percent of GDP between 2013-14 and 2015-16 to 2.3 percent of GDP in 2017-18 can be considered a historic high.

Demonetisation brought cash to GDP ratio down to 9 percent from 12.4 percent. In fact, after a stagnant growth for two consecutive quarters since demonetisation, the GVA has started showing improvement at 6.7 percent for the third quarter of financial year 2017-18. Developments in the agriculture sector bear monitoring as the overall sowing was lower in both kharif and rabi, reducing the demand for labour. The acreage for kharif and rabi for 2017-18 is estimated to have declined by 6.1 percent and 0.5 percent, respectively.<sup>20</sup> Net exports still continue to be a concern though. Foreign exchange reserves have reached well above \$ 432 billion at end-December 2017. Demand and Time deposits have been increasing since demonetisation. Demand deposits particularly reached a staggering high of Rs. 12.95 trillion and after easing out for a short duration have rebounded to the same level in September 2017.

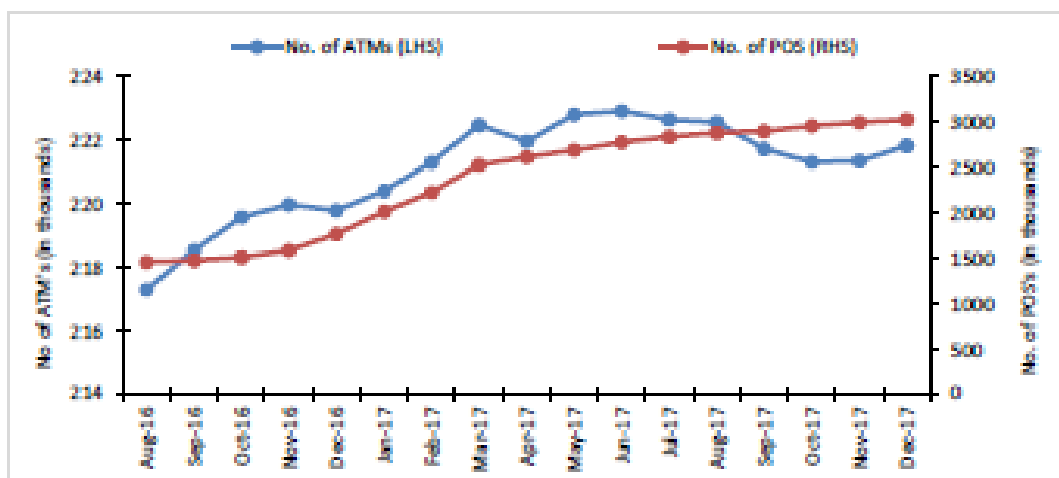
Analysis of Digital Transactions- Value and Growth rates





Source: RBI, Monthly Bulletin.

**Chart 10.b: Analysis of Digital Transactions - ATM & POS Machine usage increasing**

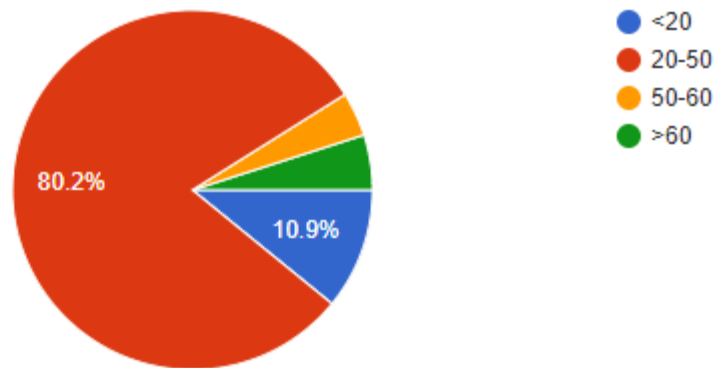


Source: RBI, Monthly Bulletin

## Questionnaire and Analysis

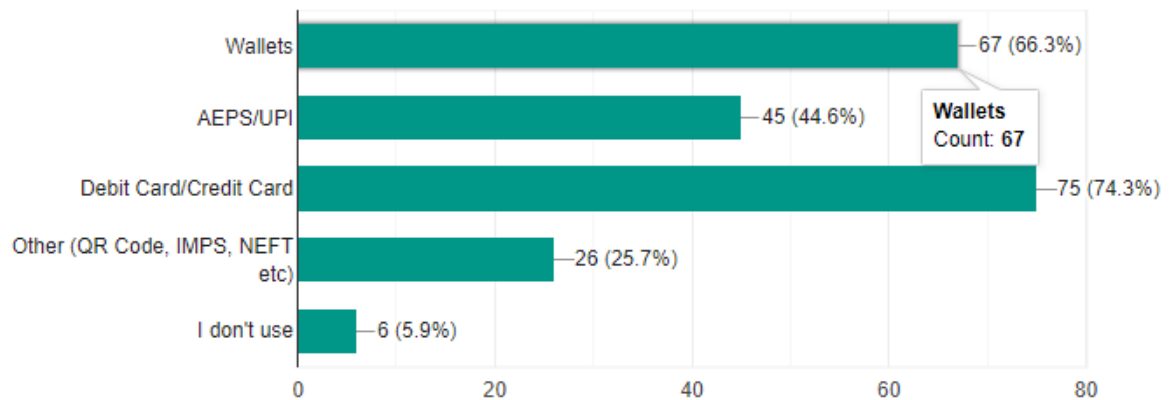
### What is your Age?

101 responses



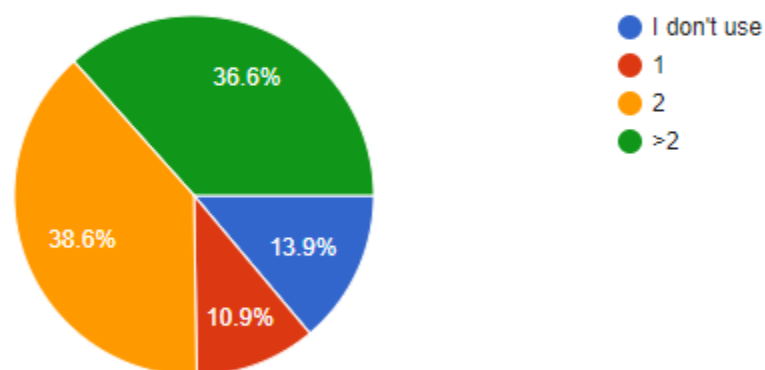
### What platform you use for digital transactions?

101 responses



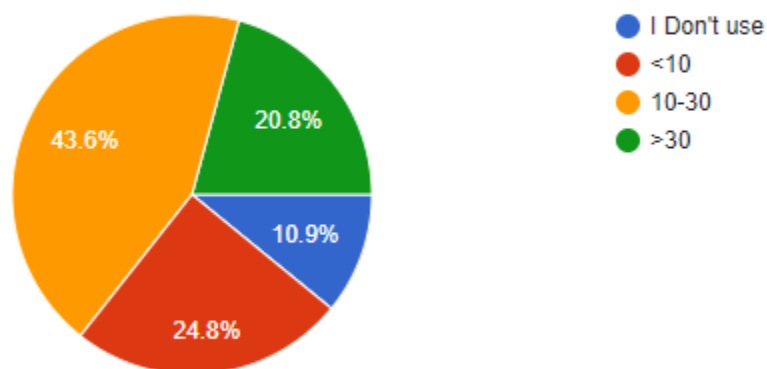
## How many digital payment apps do you use?

101 responses



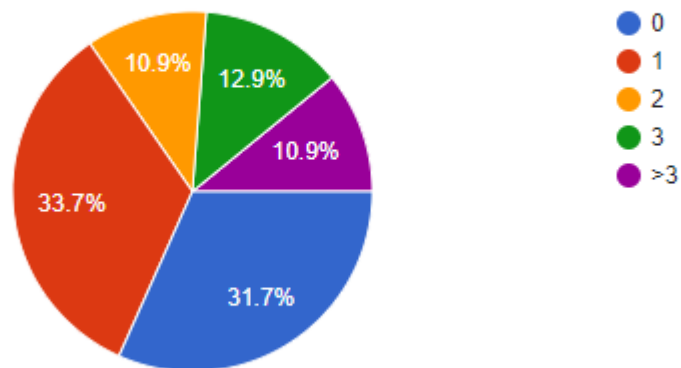
## How many times do you use digital transactions in a month?

101 responses



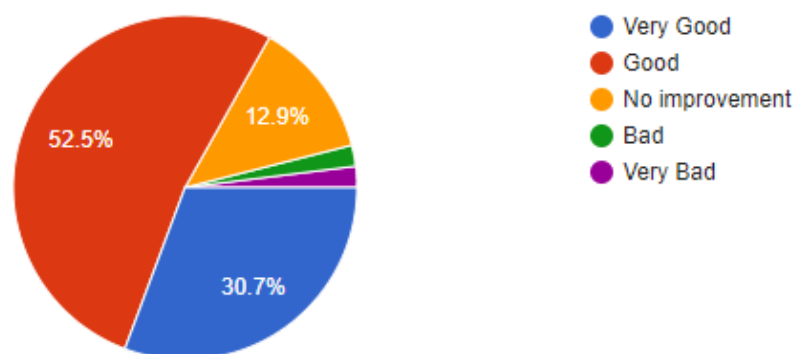
## How many government apps have you installed in your phone?

101 responses



## What do you think about digitisation of banking and other government services in last 5 years?

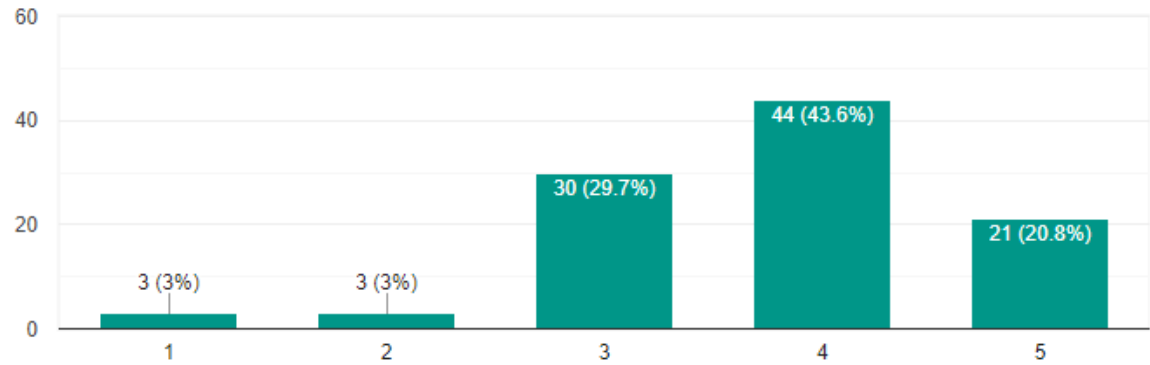
101 responses





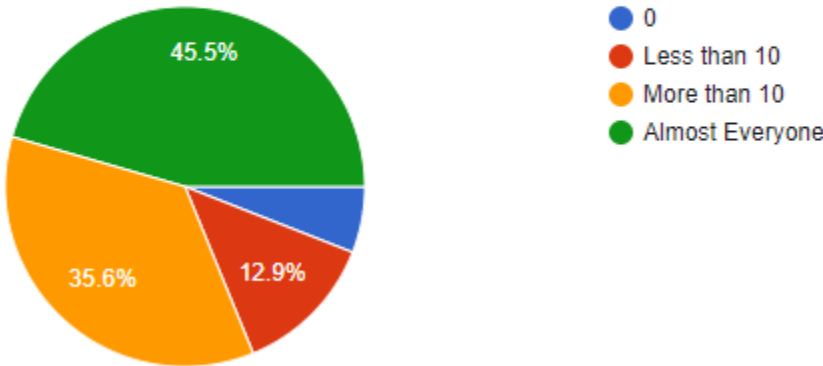
How much do you rate overall initiatives taken by the government to boost the digital infrastructure in the country?

101 responses



How many of your friends use digital payment apps?

101 responses

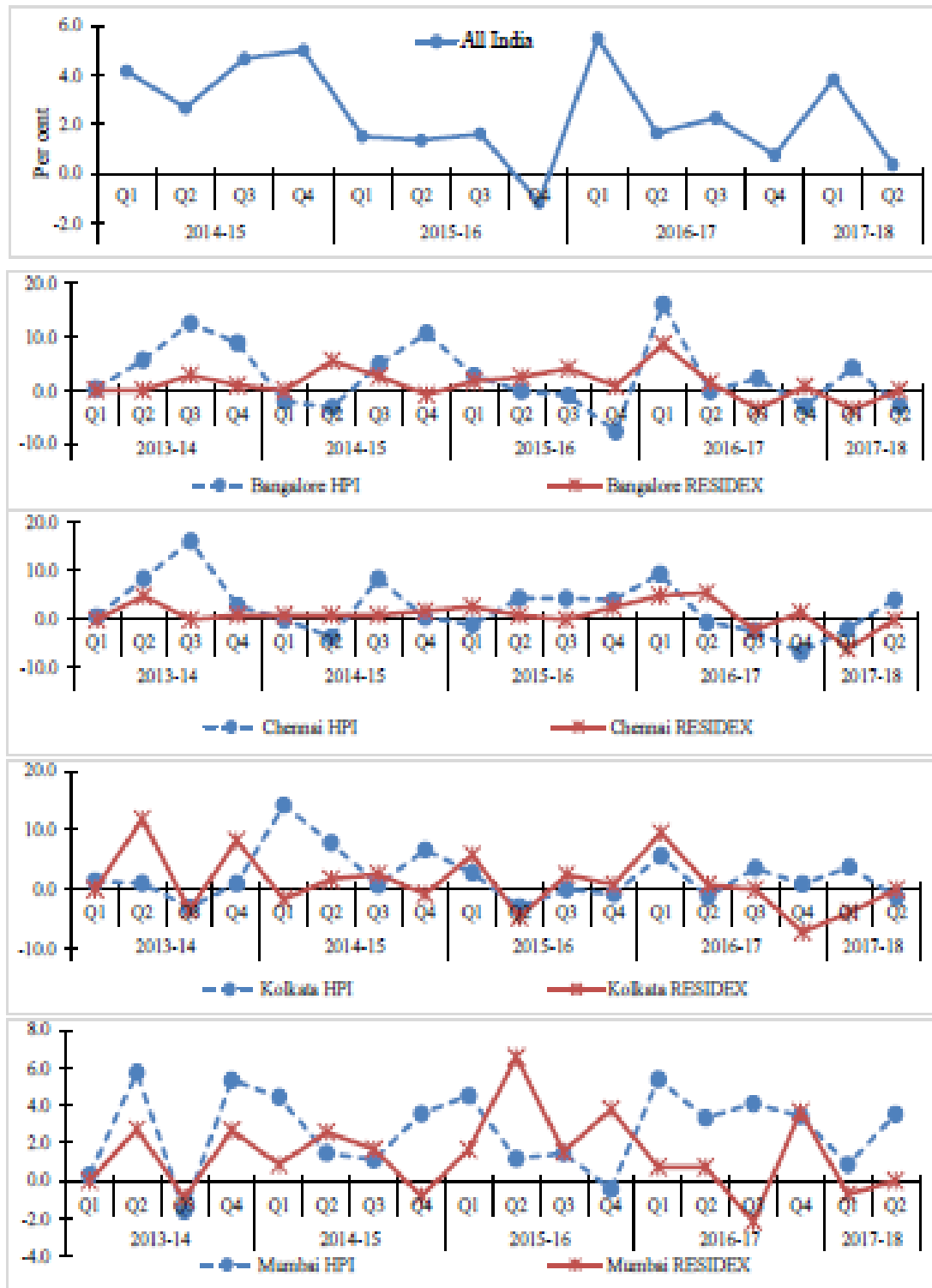


Variable	characteristic	Frequency	Percentage
Age	Less than 20	11	10.9
	20-50 yrs	81	80.2
	50-60 yrs	4	4
	60 yrs and above	5	5
Perception towards Government Initiatives	Very Good	31	30.7
	Good	21	52.7
	No improvement	13	12.9
	Bad	2	2
	Very Bad	2	2
Payment Mode	Wallets	67	66.3
	AEPS/UPI	45	44.6
	Plastic Cards	75	74.3
	Others	26	25.7
	Don't Use	6	5.9
Use of technology	Easy	75	74.3
	Tough	8	7.9
	Easy after Demo	15	14.9
	I don't Use	3	3

Frequency Analysis of Respondents satisfaction.

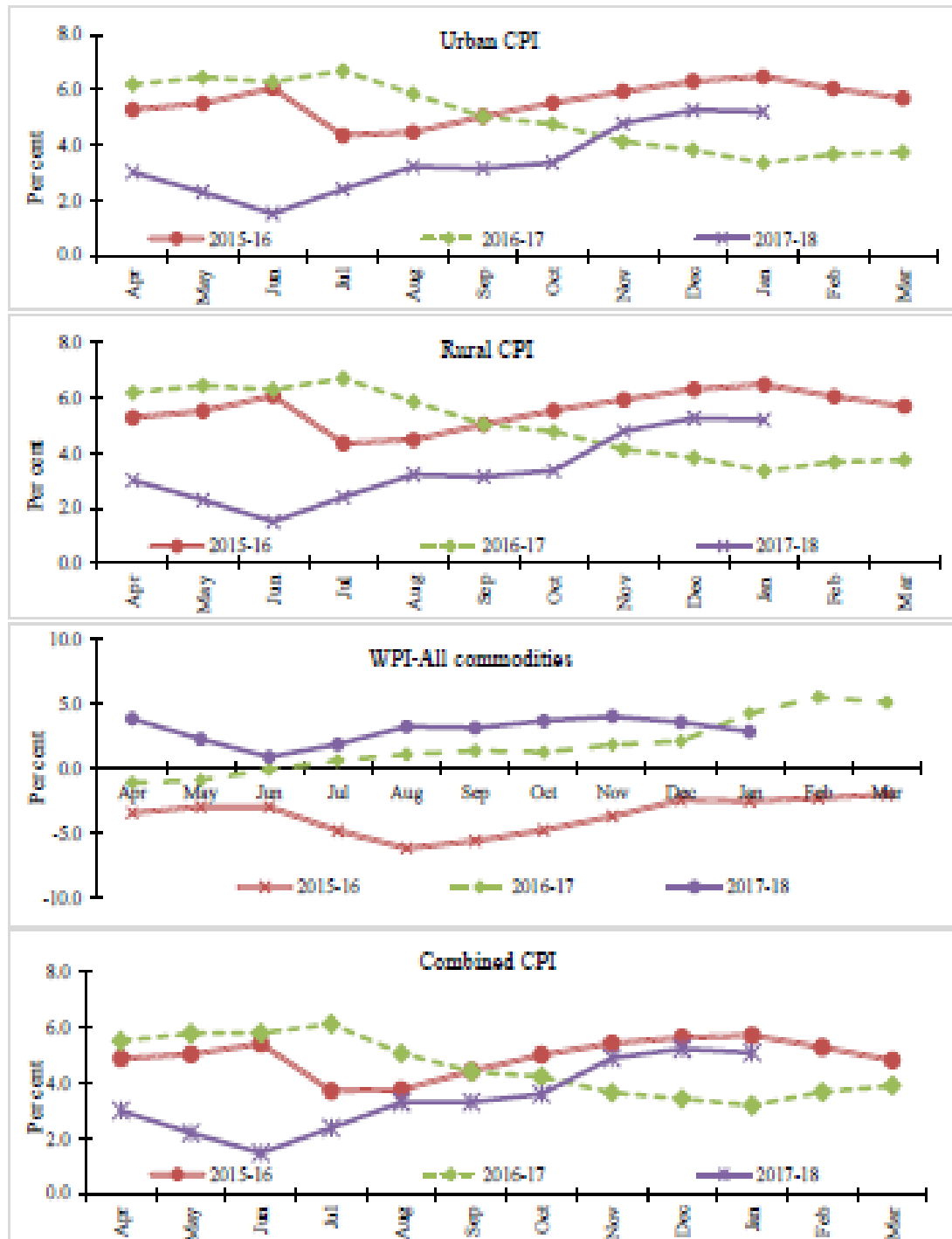
Characteristic/ Attribute	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Government has been able to improve the Digital Infrastructure in the country.	21	44	30	3	3

**Chart 7: Housing Price Trends**



Source: RBI Database on Indian Economy and National Housing Bank (NHB).

**Chart 6: Trends in Inflation**



Source: RBI, Database on Indian Economy.

## **Problems and Risks**

With digitization and the development of a cloud based system where companies do not have control over servers and outsourcing the cloud services, it will make all players more vulnerable to data loss and theft. The increase in the use of virtual networks and intranets, and “aggregation” of cyber risk due to concentration of virtual supply chains will make cyber risk and security important enterprise-level risks that will need to be addressed.

Due to interconnected digital data chains, business processes could face interruption in digital functioning.

Cyber security is also a major concern. With digitization and the development of a cloud based system where companies do not have control over servers and outsourcing the cloud services, it will make all players more vulnerable to data loss and theft. The increase in the use of virtual networks and intranets, and “aggregation” of cyber risk due to concentration of virtual supply chains will make cyber risk and security important enterprise-level risks that will need to be addressed.

Due to interconnected digital data chains, business processes could face interruption in digital functioning. There is also the risk of interconnectivity problems that might arise due multiple networks operating within same digital field. The mobile wallet companies’ and payment banks’ are totally dependent on technology, online connectivity, and requirement for high volume of digital transactions to offset the low margin per transaction will make them more prone to the cyber-attack. From our observations, these companies are becoming increasingly concerned about such cyber frauds and started adopting measures to control them.

The sophisticated data, operational risk inherent in interconnected supply chains, and cross border partnerships will likely to drive red ocean insurance coverage requirements for participating companies. In 2016, the loopholes of different organization were exposed by a number of cyber-attacks and hacking incidents in India. These enterprise-wide risks are important, given that the 154-crore Indian e-wallet market is likely to grow to Rs. 30,000 crore by the end of 2022, according to a report by ASSOCHAM.

There is also the risk of interconnectivity problems that might arise due multiple networks operating within same digital field. The mobile wallet companies’ and payment banks’ are totally dependent on technology, online connectivity, and requirement for high volume of digital

transactions to offset the low margin per transaction will make them more prone to the cyber-attack.

From our observations, these companies are becoming increasingly concerned about such cyber frauds and started adopting measures to control them.

- **Universal Financial Inclusion:** 23% of PMJDY accounts lie empty and have been labelled as zero balance accounts.
- **Consumer Behavior & Financial Literacy:** Large scale literacy is required as common man finds this process of using digital payments to be a complex process.
- **Poor Internet Connectivity:** India still has a long way to go in efficiently linking bank accounts with mobile numbers

In the case of rural areas, it is observed that though there is an interest and a steady increase in customer enquiries, the actual card usage has been low due to the lack of digital payments infrastructure, fears related to cyber security, and lack of knowledge about electronic payments. RBI statistics indicates that the total number of PoS machines in the country increased from 15,12,064 at the end of October 2016 to 22,24,977 at the end of February 2017. Invariably, an overwhelming number of these are in urban areas. The government departments and agencies in many small towns and rural areas are not equipped to receive NEFT, RTGS or IMPS transactions. The use of e-money is largely restricted to more educated youth in rural areas and small towns.

## **CONCLUSIONS AND RECOMMENDATIONS**

India with 60% population below 35 will be unchallenged for next half a century. Despite short-term pain, the country is unified in this rare scenario while on its way to become a superpower. The pressure of cash usage on society is huge. Many markets showed the path to payment product innovation like Kenya and China and strong government cash reduction initiatives can accelerate the cashless journey. While markets like Germany and Japan shows that despite having world class infrastructure for long time, digital payment journey can take time. So, it is important to understand consumer's attitude and behavior towards cash usage, otherwise they have the potential to prevent this transition. To draw long term benefits, probably, introduction of courses on ethics and morality need to be considered in higher education, including business schools, and institutions of national importance like IITs, IISc, and IIMs.

The paradigm shift is taking place in India with many people turning to digital payment modes. But on the large scale, Cash continues to be an attractive means of payment because the payer and the payee do not have to pay any additional charges and is anonymous. Anonymity is what attracts the people towards the cash. The reason why digital payment has not become popular with small merchants in India is cost and poor infrastructure as well as the desire to escape the federal tax and legal actions. An honest ecosystem will be helpful to increase growth and employment in the country.

### **Digitization and Formalization—What can be done to boost it**

In spite of the fact that there has been a huge increase in digitization and formalization of the economy, government and public can clearly follow and adopt a couple of things to escalate the procedure of formalization further and to become a totally cashless economy later on. One such alterations has been made by the GST council which included increase in basic exemption limit for suppliers of goods from Rs 20 Lakhs to Rs 40 lakhs.

#### **1. Incentives**

Although the Government of India started some incentive scheme on BHIM app based transactions, transaction costs involved in online payment channels be it e-wallets, card payments

or POS terminal based payments. It is acting as a major resistance to some of the small scale vendors and retailers.

Also there should be upper limit on cash transactions. It was fixed at Rs 2 lakh initially, which is Rs 40,000 at present in some cases. The Finance Act 2017, added a new section 269ST in the Income Tax Act. Section 269ST limited cash transactions to Rs.2 Lakhs per day.

## **2. BHIM App and Bharat QR**

BHIM app and Bharat QR have great potential to forward the agenda of a cashless economy. This is achievable given that 99% of India's rural households now have at least one member with a bank account and with 90% having a feature smart phone and 40% having a smartphone. These being products of NPCI (National Payment Corporation of India) make use of UPI (Unified Payment Interface) to directly link the user's bank account and make the necessary digital payments quicker, simpler, and secure.

## **3. Network effect**

Network effect, a phenomena which underscores that *"higher the utilization of an item the more valuable it progresses towards becoming"* plays an immense role in the adoption and success of technology based products. Right now, the market has too many service providers for wallets and for enabling payments through cell phones. Yet at the same time, users of 1 company wallets cannot make transfer to other company wallets and similarly, cannot pay certain retailers/vendors. For a genuine network impact to happen, user should be able make transactions across wallets of different companies. It should be the way forward and the network effect would lead to rapid adoption of digital payments.

## **4. Dispelling Fears through Insurance**

With digitization, the stakeholders involved be it e-wallet companies, payment banks, technology and service organizations are more vulnerable to cyber-attacks bringing data and financial misfortune. So, a digital identity insurance system may incentivize users to have confidence in the digital payments services. Since demonetization and after endeavors efforts by RBI to re monetize the paper currency, cash has indeed made a comeback.



Right now, as mentioned before in this paper, cash still stays striking and sensitive to the economy. Both cash and online payments will continue to co-exist. For online payments to really take off we need to move from early adopters to a mass market segment consisting of majority users. It will lead to fast adoption of digitization by the masses and will result in complete formalization of the economy, profiting the country. But, it remains to be seen whether such a social change will indeed take place at such a large level.

The accounting standards in the country are established by the chartered accountants and auditors. As is the practice in medical profession, those CAs/auditors and lawyers found in certifying accounts which camouflage correct picture and lead to generation of unaccounted money should be delicensed.

Regarding ways to curb unaccounted money and encourage digital transaction following suggestions can also be considered:

- Replacing higher denomination notes of Rs. 2000 and Rs.500 with Rs.100 and Rs. 50 in a phased manner. This would make storage and carrying of cash uncomfortable, thereby nudging people to adopt digital modes.
- To prevent people from withdrawing cash and encouraging them to prefer a digital transaction, government could consider levying a service charge on cash withdrawal.
- Making digital transactions through banking free for all.

Similarly, one alternative is to have smart wallet which holds cash, and can be used for transactions without disclosing the name or account details of the buyer. It is an electronic version of gift coupons or vouchers that can be used electronically in the market place.

## REFERENCES AND BIBLIOGRAPHY

### References

1. Thukral P. (2017, June). Cash Lite India: Boon or Bane? *International Journal of Innovative Research and Advanced Studies*, vol 4 (6), 450-453. ISSN:23944404
2. Kaur R.(2017, December), India's Progressive Transition towards Cashless Economy *Global Journal of commerce and Management perspective*, vol 6(6), 30-35, ISSN: 23197285
3. Khurana B. (2017, May). Dream of Cashless India: Benefits and Challenges *International Journal of Research-Granthaalayah*, vol 5(5), 377-381. ISSN: 23500530(O), 23943629(P)
4. Prof Khan N, Ansari S. (2017, August). E-Banking in India: Progress and Challenges *International Journal of Innovative Research and Advances Studies*, vol 4(8), ISSN:23944404
5. Ahmad, N. and P. Schreyer (2016), "Measuring GDP in a Digitalised Economy", *OECD Statistics Working Papers*, No. 2016/07, OECD Publishing, Paris, <https://doi.org/10.1787/5jlwqd81d09r-en>.
6. M.Nithin, P.Jijin, P.Baiju (2018-19), "Has Demonetisation pushed Digitalisation in India? Some counter Evidences", *Journal of Business Thought*, vol9, ISSN (P):2231-1734
7. Gupta Arvind, Auerswald Philip(Nov 2017),"How India is Moving towards a Digital-firs Economy ", *Harvard Business Review*, <https://hbr.org/2017/11/how-india-is-moving-toward-a-digital-first-economy>
8. Sagayarani Dorothy, "Digital Payments in India", *IOSR Journal of Business and Management*, pg 28-33, ISSN(P): 2319-7668\
9. Steve Worthington, (1995) "The cashless society", *International Journal of Retail & Distribution Management*, Vol. 23 Issue: 7, pp.31-40, ISSN: 0959-0552
10. Van Son Dinh, Hoang Viet Nguyen, The Ninh Nguyen, (2018) "Cash or cashless?: Promoting consumers' adoption of mobile payments in an emerging economy", *Strategic Direction*, Vol. 34 Issue: 1, pp.1-4, <https://doi.org/10.1108/SD-08-2017-0126>

11. Steve Worthington, (1995) "The cashless society", *International Journal of Retail & Distribution Management*, Vol. 23 Issue: 7, pp.31-40, <https://doi.org/10.1108/09590559510095260>
12. Harry Bouwman, Shahrokh Nikou, Francisco J. Molina-Castillo, Mark de Reuver, (2018) "The impact of digitalization on business models", *Digital Policy, Regulation and Governance*, Vol. 20 Issue: 2, pp.105-124, <https://doi.org/10.1108/DPRG-07-2017-0039>
13. <https://medium.com/@pavankumar7/demonetization-digitization-and-cashless-economy-e970da947817>
14. <http://pib.nic.in/newsite/printrelease.aspx?relid=155605>
15. Future of Money, Mint, Leslie D'Monte, also available at <http://www.livemint.com/Industry/asnVex3sF8Ca8l8I0zESYO/The-future-of-money.html>.
16. World Payments Report 2016, Capgemini and BNP Paribas.
17. World Insurance Report 2016, Capgemini and Efma.
18. Internet users in India to reach 600 million by 2020: Assocham-Deloitte study.
19. Safety first in cashless drive, Jayati Ghose, The Telegraph, available at [https://www.telegraphindia.com/1161219/jsp/business/story\\_125458.jsp#.WFfU62c0M2w](https://www.telegraphindia.com/1161219/jsp/business/story_125458.jsp#.WFfU62c0M2w).
20. E-wallets used to siphon off money, V Narayani, Times of India, available at <http://timesofindia.indiatimes.com/city/mumbai/e-wallets-used-to-siphon-off-money/articleshow/56112481.cms>.
21. After demonetization, e-wallets strike it rich, while India runs out of cash, Javed Anwer, India Today, available at <http://indiatoday.intoday.in/technology/story/after-demonetisation-e-wallets-strike-it-rich-while-india-runs-out-of-cash/1/817932.html>.
22. Demonetisation in India: Driving a digital treasure hunt, Yogesh K Dwivedi, Brink Asia, available at <http://www.brinknews.com/asia/demonetization-in-india-driving-a-digital-treasure-hunt/>
23. Can India really provide bank accounts to 1.2 billion people, Jungkiu Choi, BBC, available at <http://www.bbc.com/news/world-asia-india-29074310>.
24. Indian m-wallet market to reach Rs. 30K crore by FY22, India Infoline News Service, available at Indian m-wallet market to reach Rs. 30K crore by FY22

25. <https://www.marsh.com/in/insights/research/demonetization-and-digitization-of-the-indian-economy.html>
26. [http://cashlessindia.gov.in/digital\\_payment\\_methods.html](http://cashlessindia.gov.in/digital_payment_methods.html)
27. <https://www.forbes.com/sites/forbesfinancecouncil/2017/10/24/the-cashless-economy-why-and-where-its-evolving-and-what-businesses-can-do-now-to-prepare/#5abad7ec3e11>
28. Government of India (2012), Black Money Committee Report, Measures to tackle black money in India and Abroad. Ministry of Finance.
29. Government of India (2012), Black Money: White Paper. May.
30. Government of India (2016), Annual Report 2016-17, Department of Economic Affairs.
31. Government of India (2017) Union Budget Speech by Shri Arun Jaitley, February 2017.
32. Government of India (2018), Economic Survey-2017-18.